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| 10/597,825 | 08/09/2006 | Kazuji Kobayashi | SAIT-4603 | 6748 |
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| EXAMINER | | | | |
| ELBIN, JESSE A | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/597,825

Applicant(s)

KOBAYASHI, KAZUJI

Examiner

JESSE A. ELBIN

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "magnet [being] disposed inside the voice coil" of claims 6 and 11 must be shown or the feature(s) canceled from the claim(s). Applicant's remarks assert that this feature is not well known in the art (pp. 12-13). As such, a detailed illustration is essential for a proper understanding of the invention. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 5, 7, 8, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Hofer (US Patent 4,843,628 ('628)) (already of record).

Regarding claim 1, Hofer teaches a bone conduction device (inertial receiver; title) comprising: a base yoke (Fig. 2 #36) carrying both a voice coil (Fig. 2 #40) and a magnet (Fig. 2 #30); and a front yoke (armature; Fig. 2 #16) disposed on an upper surface of a magnetic pole (#32) of the base yoke (Fig. 2 #36), a necessary clearance (Fig. 2 *between* #34 and #18) being provided between, the upper surface (#34) of the magnetic pole (#32) of the base yoke (#36) and a surface of the front yoke (#16) opposite to the upper surface (#34) of the magnetic pole (#32) of the base yoke (#36), wherein the bone conduction device (Fig. 1 #10) is characterized in that the clearance is produced by a resilient element (diaphragm; Fig. 2 #18), which is disposed in an outer peripheral portion of the base yoke (#36 *via* #22 and #30) to receive the front yoke (#16) thereon (*via* #18).

Regarding claim 3, Hofer remains as applied above.

Hofer further teaches the front yoke (armature; #16) being fixedly mounted in an inner surface of a casing without using any screw ("bonded by epoxy or the like to the interior of the closed end of the inner housing"; col. 2 lines 38-41).

Regarding claim 5, Hofer remains as applied above.

Hofer further teaches said magnet (#30) being disposed outside said voice coil (Fig. 2).

Regarding claim 7, Hofer teaches a bone conduction device (inertial receiver; title) comprising: a base yoke (Fig. 2 #36) carrying both a voice coil (Fig. 2 #40) and a magnet (Fig. 2 #30); a front yoke (armature; Fig. 2 #16) disposed on an upper surface (#34) of a magnetic pole (#32) of the base yoke (#36), a necessary clearance (Fig. 2 *between #34 and #16*) being provided between the upper surface (#34) of the magnetic pole (#32) of the base yoke (#36) and a surface of the front yoke (#16) opposite to the upper surface (#34) of the magnetic pole (#32) of the base yoke (#36) wherein the device is characterized in that the clearance is produced by a damper (diaphragm; Fig. 2 #18), which is mounted on the base yoke (*at #20 via #22 and #30*) to have its peripheral edge supported by an inner surface of a casing (Fig. 2 *wherein #18 is supported by an inner surface of a casing via #20, #22, #30, #36, and #38*).

Regarding claim 8, Hofer remains as applied above.

Hofer further teaches said front yoke (armature; #16) being fixedly mounted on an inner surface of a casing without using any screw ("bonded by epoxy or the like to the interior of the closed end of the inner housing"; col. 2 lines 38-41).

Regarding claim 10, Hofer remains as applied above.

Hofer further teaches said magnet (#30) being disposed outside said voice coil (Fig. 2 #40).

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Fukuda (US PGPub 2003/0012395 ('395)).

Regarding claim 1, Fukuda teaches a bone conduction device ('395 title) comprising: a base yoke (Fig. 1 #4) carrying both a voice coil (Fig. 1 #6) and a magnet (Fig. 1 #7); and a front yoke (vibration block; Fig. 1 #10) disposed on an upper surface of a magnetic pole (Fig. 1 #5) of the base yoke (#4), a necessary clearance (Fig. 1 *between* #5 and #10) being provided between, the upper surface of the magnetic pole (#5) of the base yoke (#4) and a surface of the front yoke (#10) opposite to the upper surface of the magnetic pole (#5) of the base yoke (#4), wherein the bone conduction device (#1) is characterized in that the clearance is produced by a resilient element (vibrating plate; Fig. 1 #8), which is disposed in an outer peripheral portion of the base yoke (#4) to receive the front yoke (#10) thereon.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda (US PGPub 2003/0012395 ("395)) as applied to claim 1 above.

Regarding claim 2, Fukuda remains as applied above.

Fukuda further teaches the base yoke (#4) being provided with a circular base (diaphragm-mounting portion; Fig. 1 #9; *wherein* "the diaphragm-mounting portion 9...are disposed on the same diameter circle" [0026] lines 4-7); and, the resilient element (#8) assumes a shape (Fig. 1) extending along the base (Fig. 1 *illustrates* #8 *surrounding said base, connected via magnet* #30).

While Fukuda does not explicitly teach the resilient element assuming "an arcing" shape, use of a "circular base" at the "diaphragm-mounting portion" would suggest to one of ordinary skill in the art at the time of the invention to use "an arcing" (i.e. circular) shape for the resilient element, as they are directly connected to each other.

7. Claims 4, 9, and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hofer (US Patent 4,843,628 ('628)) (already of record) in view of Wei (US Patent 6,389,140 ('140)) (already of record).

Regarding claim 4, Hofer remains as applied above.

Hofer does not explicitly teach the front yoke being fixedly mounted in a yoke reception portion of the inner surface of the casing in an insertion manner.

In the same field of endeavor, Wei teaches the front yoke ('140 Fig. 1 #8 *wherein Wei teaches #8 is a block of high density foam used to transmit vibrations from the piezoelectric element to the casing; col. 2 lines 64-66*) being fixedly mounted in a yoke reception portion (securing portion; '140 Fig. 1 #21) of the inner surface of the casing ('140 Fig. 1 #1) in an insertion manner ('140 Fig. 1) for the benefit of more securely attaching the vibration transmitting member to the inner surface of the casing.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include a securing portion on the casing of the bone conduction device as taught by Wei on the device taught by Hofer for the benefit of more securely attaching the vibration transmitting member to the inner surface of the casing.

Regarding claim 9, Hofer remains as applied above.

Hofer does not explicitly teach the front yoke being fixedly mounted in a yoke reception portion of the inner surface of the casing in an insertion manner.

In the same field of endeavor, Wei teaches the front yoke ('140 Fig. 1 #8 *wherein Wei teaches #8 is a block of high density foam used to transmit vibrations from the piezoelectric element to the casing; col. 2 lines 64-66*) being fixedly mounted in a yoke reception portion (securing portion; '140 Fig. 1 #21) of the inner surface of the casing ('140 Fig. 1 #1) in an insertion manner ('140 Fig. 1) for the benefit of more securely attaching the vibration transmitting member to the inner surface of the casing.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include a securing portion on the casing of the bone conduction device as taught by Wei on the device taught by Hofer for the benefit of more securely attaching the vibration transmitting member to the inner surface of the casing.

Regarding claim 12, Hofer teaches a bone conduction device (inertial receiver; title) comprising: a base yoke (Fig. 2 #36) carrying both a voice coil (Fig. 2 #40) and a magnet (Fig. 2 #30); and a front yoke (armature; Figs. 1-2 #16) having a flat plate-like shape (Fig. 1) disposed on an upper surface of a magnetic pole (#32) of the base yoke (Fig. 2 #36), a necessary clearance (Fig. 2 *between* #34 and #18) being provided between, the upper surface (#34) of the magnetic pole (#32) of the base yoke (#36) and a surface of the front yoke (#16) opposite to the upper surface (#34) of the magnetic pole (#32) of the base yoke (#36) wherein the device (Fig. 1 #10) is characterized in that the clearance is produced by a damper (diaphragm; Fig. 2 #18), which is mounted on the base yoke (#36 *via* #22 and #30) to have its peripheral edge (*at* #20) supported

by an inner surface of a casing (Fig. 2 *wherein #18 is supported by an inner surface of a casing via #20, #22, #30, #36, and #38*).

Hofer does not explicitly teach the front yoke being fixedly mounted in a yoke reception portion of the inner surface of the casing in an insertion manner.

In the same field of endeavor, Wei teaches the front yoke ('140 Fig. 1 #8 *wherein Wei teaches #8 is a block of high density foam used to transmit vibrations from the piezoelectric element to the casing; col. 2 lines 64-66*) being fixedly mounted in a yoke reception portion (securing portion; '140 Fig. 1 #21) of the inner surface of the casing ('140 Fig. 1 #1) in an insertion manner ('140 Fig. 1) for the benefit of more securely attaching the vibration transmitting member to the inner surface of the casing.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include a securing portion on the casing of the bone conduction device as taught by Wei on the device taught by Hofer for the benefit of more securely attaching the vibration transmitting member to the inner surface of the casing.

Regarding claim 13, Hofer teaches a bone conduction device (inertial receiver; title) comprising: a base yoke (Fig. 2 #36) carrying both a voice coil (Fig. 2 #40) and a magnet (Fig. 2 #30); and a front yoke (armature; Fig. 2 #16) disposed on an upper surface of a magnetic pole (#32) of the base yoke (Fig. 2 #36), a necessary clearance (Fig. 2 *between #34 and #18*) being provided between, the upper surface (#34) of the magnetic pole (#32) of the base yoke (#36) and a surface of the front yoke (#16) opposite to the upper surface (#34) of the magnetic pole (#32) of the base yoke (#36),

wherein the device (Fig. 1 #10) is characterized in that the clearance is produced by a damper (diaphragm; Fig. 2 #18), which is mounted on the base yoke (#36 via #22 and #30) to have its peripheral edge (at #20) supported by an inner surface of a casing (Fig. 2 wherein #18 is supported by an inner surface of a casing via #20, #22, #30, #36, and #38).

Hofer does not explicitly teach the front yoke being fixedly mounted in a yoke reception portion of the inner surface of the casing in an insertion manner.

In the same field of endeavor, Wei teaches the front yoke ('140 Fig. 1 #8 wherein Wei teaches #8 is a block of high density foam used to transmit vibrations from the piezoelectric element to the casing; col. 2 lines 64-66) being fixedly mounted in a yoke reception portion (securing portion; '140 Fig. 1 #21) of the inner surface of the casing ('140 Fig. 1 #1) in an insertion manner ('140 Fig. 1) for the benefit of more securely attaching the vibration transmitting member to the inner surface of the casing.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include a securing portion on the casing of the bone conduction device as taught by Wei on the device taught by Hofer for the benefit of more securely attaching the vibration transmitting member to the inner surface of the casing.

8. Claims 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hofer (US Patent 4,843,628 ('628)) (already of record) in view of Weiss (US Patent 3,019,304 ('304)).

Regarding claim 6, Hofer remains as applied above.

Hofer does not explicitly teach the magnet being disposed inside the voice coil.

In the same field of endeavor, Weiss teaches the magnet (Fig. 4 #44) being disposed inside (Fig. 3 #44, 46) the voice coil (Fig. 4 #46) for the benefit of increasing the number of windings in the voice coil without increasing the volume occupied by the magnetic circuit.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the magnetic circuit design taught by Weiss, wherein the magnet disposed inside the voice coil, on the bone-conduction device taught by Hofer, for the benefit of increasing the number of windings in the voice coil without increasing the volume occupied by the magnetic circuit.

Regarding claim 11, Hofer remains as applied above.

Hofer does not explicitly teach said magnet being disposed inside said voice coil.

In the same field of endeavor, Weiss teaches the magnet (Fig. 4 #44) being disposed inside (Fig. 3 #44, 46) the voice coil (Fig. 4 #46) for the benefit of increasing the number of windings in the voice coil without increasing the volume occupied by the magnetic circuit.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the magnetic circuit design taught by Weiss, wherein the magnet disposed inside the voice coil, on the bone-conduction device taught by Hofer, for the

benefit of increasing the number of windings in the voice coil without increasing the volume occupied by the magnetic circuit.

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 1, 2, and 4-13 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over, at least, claims 1-5 of US Patent 7,292,695 in view of the prior art of record, as applied in the art rejections above. While the claim language between the two applications is not identical, their differences were not found to patentably distinguish the two sets of claims.

Response to Arguments

11. Applicant's arguments filed December 22, 2008 have been fully considered but they are not persuasive.

12. Examiner appreciates Applicant's clarifying the purpose and motivation of the invention on page 9, and the first two paragraphs of page 10. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

13. Applicant's arguments relating to use of the "brass ring" (Hofer) as the "resilient element" are moot in view of the new grounds of rejection above.

14. Applicant argues that "the resilient element in Hofer does not come into contact with its 'base yoke' as recited in the amended claims" (page 10, last paragraph).

Examiner agrees with this statement; however disagrees that the claims are limited to this narrow interpretation. Claim 1 states the resilient element "is disposed in an outer

peripheral portion of the base yoke", while claims 7, and 12-13 state that the damper "is mounted on the base yoke". Reasonably, claims 1, 7, and 12-13 can be interpreted as having the resilient member/damper and the base yoke connected together. Further, "mounted on" implies that the connection between the two components will occur at that particular point, but does not require the two components be directly connected together.

15. Applicant argues that Examiner's "official notice" statement "constitutes improper hindsight reasoning and appears to be based upon the Applicant's own specification and the apparent inability of the Examiner to find references" (page 13, lines 6-8). Examiner respectfully disagrees with this statement, as evidenced by the ground of rejection clarified above, which demonstrates that use of a magnetic circuit wherein "the magnet is disposed inside the voice coil" in a bone-conduction speaker. While Examiner agrees that bone-conduction speakers more commonly have a magnetic circuit characterized by claims 5, 10, and the admitted prior art, Examiner maintains that the two configurations are obvious variants over each other and remains a matter of design choice to one of ordinary skill in the art. If Applicant maintains that claims 5 and 6 are not obvious variants, Examiner respectfully requests Applicant provide drawings to comply with 37 CFR 1.83(a) as stated in the above drawing objection.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESSE A. ELBIN whose telephone number is (571)270-3710. The examiner can normally be reached on Monday through Friday, 9:00am to 6:00pm EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on (571) 272-7499. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. A. E./
Examiner, Art Unit 2614
/CURTIS KUNTZ/
Supervisory Patent Examiner, Art Unit 2614